

NAME CHANGES FOR TWO COMMON AFRICAN
CATFISHES. REHABILITATION
OF *SCHILBE INTERMEDIUS* RÜPPELL, 1832
(SILURIFORMES, SCHILBEIDAE).

by

Luc DE VOS (1) and Paul SKELTON (2)

ABSTRACT. - An examination of the holotype of *Silurus mystus* Linnaeus, 1758, now included in the genus *Schilbe*, reveals that it is conspecific with the species known as *Schilbe (Eutropius) niloticus* (Rüppell, 1829). In accordance with the International Code of Zoological Nomenclature the earlier described *Schilbe mystus* replaces the later *Schilbe niloticus*. The species formerly, but mistakenly, accepted in the ichthyological literature to be *Schilbe mystus* is re-identified as *Schilbe intermedius* Rüppell, 1832.

RÉSUMÉ. - L'examen de l'holotype de *Silurus mystus* Linnaeus, 1758, actuellement inclus dans le genre *Schilbe*, a démontré que ce spécimen est de la même espèce que celle qui est généralement appelée *Schilbe (Eutropius) niloticus* (Rüppell, 1829). En accord avec le Code International de la Nomenclature Zoologique, le nom le plus ancien, *Schilbe mystus*, remplace le plus récent, à savoir *Schilbe niloticus*. L'espèce communément connue dans la littérature ichtyologique sous le nom *Schilbe mystus* sera dorénavant appelée *Schilbe intermedius* Rüppell, 1832.

Key-words. - Schilbeidae, *Silurus mystus*, *Schilbe intermedius*, *Schilbe niloticus*, Terminology, Linnaeus type, Taxonomy.

The genus *Schilbe* was described by Oken (1817) as a Latin equivalent to the French name 'Schilbé' given by Cuvier (1817). Since then the genus *Schilbe* has included African catfishes characterised by a strongly compressed body, four pairs of circumoral barbels, a greatly extended anal fin, pelvic fins with $i + 5$ soft rays and a dorsal fin with a single spine and 6 (exceptionally 5) soft rays. It was assumed that fishes in this genus did not possess an adipose fin, and *Silurus mystus* Linnaeus, 1758 was taken to be the type species. It has also been generally accepted that the only difference between the genus *Schilbe* and the closely similar *Eutropius* Müller & Troschel, 1849 (type species *Hypophthalmus niloticus* Rüppell, 1829) is the presence of a small adipose fin in the latter. De Vos (1984) reported that some populations of *Schilbe mystus* include individuals with an adipose fin or a rudimentary adipose fin, which brought into question the value of the adipose fin as a valid generic character for these fishes. As a result of this De Vos (1984) synonymised the two genera under the senior name *Schilbe*. He did however propose a subgeneric distinction based on the presence or absence of an adipose fin, but given the confusing state of this character in the species *S. mystus*, it is now clear that such a distinction can no longer be upheld. The type species of the genus *Schilbe* (including *Eutropius*) remains *Silurus mystus* Linnaeus, 1758. De Vos (1986) gave the type locality of *Silurus mystus* according to the original description as "In

(1) Musée Royal de l'Afrique Centrale, Section des Vertébrés, B-1980 Tervuren, BELGIQUE.

(2) J.L.B. Smith Institute of Ichthyology, Private Bag 1015, Grahamstown 6140, SOUTH AFRICA.

Nilo". The existence of the type specimen for this species was overlooked by De Vos (1986) even though it had been listed by Fernholm and Wheeler (1983) as one of the Linnean specimens in the Swedish Museum of Natural History. Fernholm and Wheeler (1983) considered the specimen labelled as *Silurus mystus* (N° 63, "Habitat in Nilo") (Fig. 1) as the type of *Schilbe mystus*. The name *Silurus mystus* given in Linnaeus' *Systema Naturae* (1758) was based on Hasselquist's (1757) more detailed description in "Iter Palaestinum" as well as on Linnaeus' own description drawn up but not published until the second volume of the *Museum Adolphi Frederici* appeared in print in 1764. No detailed morphological examination of this holotype was made until the present authors had the opportunity to do so independently (P.S. in 1985 and L.D.V. in 1988) during study visits to the Section of Vertebrate Zoology of the Swedish Museum of Natural History in Stockholm. The holotype is kept in a jar labeled NRM LP 70, and contains separate labels from Ulriksdal, Dalman, Bergström and probably Smith. As determined by Fernholm and Wheeler (1983) it seems reasonably certain that this specimen is the original of the description given in the *Museum Adolphi Frederice* and probably of Hasselquist's description. We therefore concur with Fernholm and Wheeler (1983) that this specimen can be regarded as the type of *Schilbe mystus*.

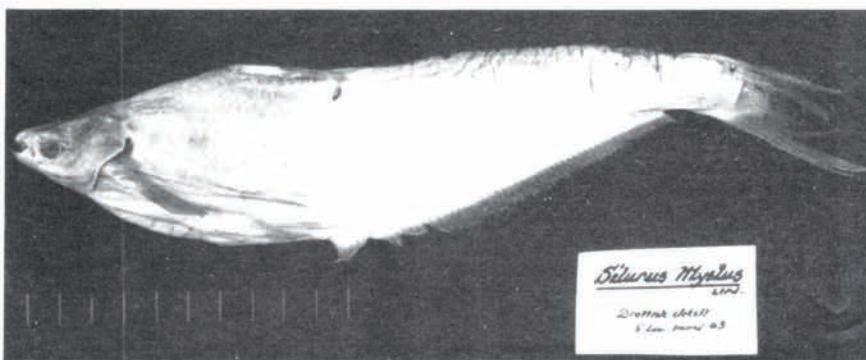


Fig. 1. - The holotype of *Silurus mystus* Linnaeus, 1758 (NHRM n° 63, SL about 22 cm). The small adipose fin is not clearly visible. (Photograph courtesy of the Vertebrate Section of the Swedish Museum of Natural History).

A short comparison of the most important morphological characters as given by Hasselquist (1757), Linnaeus (1758, 1764) and as recorded by ourselves on this type is made in Table I. Apart from a few minor differences in the measurements of different authors the most striking point is the observation by ourselves of the presence of a small adipose fin. This fin was overlooked by both Hasselquist and Linnaeus. However such oversight is not surprising given the small size of the fin and the fact that it is folded against the body of the fish and therefore is not clearly visible (Fig. 1). Other important characters of the type specimen are the strong serrations along the inner edge of the pectoral fin spines, the position of the anterior nostrils being closer to each other than are the posterior nostrils, and the configuration of the snout which reaches slightly beyond the lower jaw. In all these characters the type specimen of *Silurus mystus* corresponds with the specific and diagnostic characters of *Schilbe niloticus* (see De Vos and Lévéque, 1983) and the two species must be considered conspecific. Because of priority the binomen *Schilbe mystus* replaces *Schilbe niloticus* and the species formerly considered *Schilbe mystus* in the literature requires renaming. The oldest available name for this species is *Schilbe intermedius* Rüppell, 1832. Adjusted lists of synonyms for these two species are as follows :

Table I. - Comparison of certain relevant morphological characters of the holotype of *Silurus mystus* Linnaeus, 1758 (NHRM n° 63) from different authors. * The small locking spine preceding the large dorsal spine is not included in the count of dorsal fin rays.

Character	Hasselquist (1757)	Linnaeus (1758 and 1764)	Our observations
Dorsal fin(s)	Unique dorsal fin with 7 rays, the first spinous (I + 6)	Unique dorsal fin with 5 or 6 rays, the first spinous (I + 4 or I + 5)	A rayed dorsal fin with a spine and 6 soft rays (I + 6)
Adipose fin	-	absent	present
Anal fin rays	51	57	51 + 59
Pelvic fin rays	6	6	1 + 5
Pectoral fin rays	I + 11, the first spinous and serrated on its inner side	I + 8, the first spinous and serrated on its inner side	I + 10, the first spinous and serrated on its inner side
Caudal fin rays	20	19	19
Non-fused vertebrae	-	-	46
Circumoral barbels	6	5	8
Branchiostegal rays (one side of the head)	10	-	9
Gill-rakers (first arch)	-	-	10 + 4

Schilbe mystus (Linnaeus, 1758)

Holotype: NHRM Stockholm, n° 63. Type species of the genus *Schilbe*. Type locality "In Nilo".

Synonyms: *Silurus mystus* Linnaeus, 1758; *Hypophthalmus niloticus* Rüppell, 1829; *Schilbe hasselquistii* Valenciennes, 1839; *Bagrus schilbeides* Valenciennes, 1839; *Schilbe bipinnatus* Valenciennes, 1839; *Bagrus adansonii* Valenciennes, 1839; *Eutropius obtusirostris* Günther, 1864; *Eutropius altipinnis* Steindachner, 1894; *Eutropius niloticus niloticus* Blache et al., 1964.

Schilbe intermedius Rüppell, 1832

Holotype: BMNH, London, n° 1850.7.29: 14. Type locality "Nil, Egypt".

Synonyms: *Schilbe auratus* de Joannis, 1835; *Schilbe senegalensis* Valenciennes, 1839; *Schilbe senegalensis* Günther, 1864; *Bagrus depressirostris* Peters, 1852; *Schilbe dispila* Günther, 1864; *Schilbe senegalensis fasciata* Steindachner, 1870; *Schilbe steindachneri* Guimaraes, 1884; (?) *Schilbe bouvieri* de Rochebrune, 1885; *Schilbe emini* Pfeffer, 1896; *Eutropius lemairii* Boulenger, 1898; *Schilbe palmeri* Svensson, 1933.

Acknowledgements. - The authors wish to thank the staff of the Department of Vertebrate Zoology of the Swedish Museum of Natural History, especially Dr S.O. Kullander, Mr E. Ahlander and Dr B. Fernholm, for permission to study the schilbeid fishes in the Museum and for their hospitality and assistance in this work. Dr G. Teugels of the Vertebrate Section from the Tervuren Museum kindly helped us during the preparation of the final manuscript. A travel grant from the Foundation for Research Development enabled P.S. to make the visit to Stockholm in August 1985. A grant of the National Fonds voor het Wetenschappelijk Onderzoek (NFWO) permitted L.D.V. to visit the Stockholm Museum in August 1988.

REFERENCES

BLACHE J., MITON F., STAUCH A., ILTIS A. & G. LOUBENS, 1964. - Les poissons du bassin du Tchad et du bassin adjacent du Mayo-Kebbi. Etude systématique et biologique. *Mém. ORSTOM*, 4(2): 485 pp.

BOULENGER G.A., 1898. - Matériaux pour la faune du Congo. Poissons nouveaux du Congo. *Ann. Mus. Congo*, 1(6): 1-164.

CUVIER G., 1817. - Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Paris, vol. 2: Poissons: 104-351.

DAGET J., GOSSE J.-P. & D.F.E. THYS VAN DEN AUDENAERDE (eds.), 1986a. - Check-list of the freshwater fishes of Africa, vol. 2, 520 pp. ISBN, MRAC, ORSTOM.

DAGET J., GOSSE J.-P., & D.F.E. THYS VAN DEN AUDENAERDE (eds.), 1986b. - Check-list of the freshwater fishes of Africa, vol. 3, Bibliography, 273 pp. ISBN, MRAC, ORSTOM.

DE JOANNIS L., 1835. - Observation sur les poissons du Nil, et descriptions de plusieurs espèces nouvelles suivies d'un tableau de toutes les espèces qui vivent dans ce fleuve. *Mag. Zool.*, (4): 1-14.

DE ROCHEBRUNE A.T., 1885. - Vertebratorum novorum vel minus cognitorum orae Africæ occidentalis incolarum. *Diagnoses. Bull. Soc. philomat.*, Paris, 7(9): 86-99.

DE VOS L., 1984. - Preliminary data of a systematic revision of the African species of the family Schilbeidae (Pisces, Siluriformes). *Rev. Zool. afr.*, 98(2): 424-433.

DE VOS L., 1986. - Schilbeidae. In: *Check-list of the freshwater fishes of Africa*, vol. 2, (Daget J. et al., eds): 36-53. ISBN, MRAC, ORSTOM.

DE VOS L. & C. LÉVÈQUE, 1983. - Etude systématique et morphologique du genre *Eutropius* (Pisces, Schilbeidae) en Afrique de l'Ouest. *Rev. Zool. afr.*, 97(3): 469-532.

FERNHOLM B. & A.A. WHEELER, 1983. - Linnaean fish specimens in the Swedish Museum of Natural History, Stockholm. *Zool. J. Linn. Soc.*, 78(3): 199-286, 2 figs.

GUIMARAES A.R.P., 1884. - *Diagnoses de trois nouveaux poissons d'Angola. Jorn. Sci. Acad. Lisboa*, 9: 1-10.

GUNTHER A., 1864. - Catalogue of the fishes of the British Museum, vol. 5: *Physostomi*. London, 455 pp.

HASSELQUIST F., 1757. - Iter Palaestinum; eller resa till Heliga landet förrättad ifran ar 1749 til 1752, med beskrifningar, rön, anmärkningar, öfver de Märkvädigaste natura- lier, pa Hennes kongl. Mav. ts befalling utgifjen af Carl Linnaeus. Stockholm: Lars Salvii (Holmiae) : 324-407.

LINNAEUS C., 1758. - *Systema Naturae*. I. Holmiae, Ed. 10: 823 pp.

LINNAEUS C., 1764. - *Museum S:ae R:ae M:tis Adolphi Friderici Regis.... Tom. secundi Prodromus*. Holmiae: Laurentii Salvii.

OKEN L., 1817. - Lehrbuch der Naturgeschichte. Leipzig & Iena, pt Zoologie, Abth. 2. Fleischtiere, XVI: 1270 pp.

PETERS W.C.H., 1852. - Diagnosen von neuen Fluss-Fischen aus Mossambique. *Mber. dt. Akad. Wiss., Berl.*: 275-276; 681-685.

PFEFFER G., 1896. - Die Fische Ost-Afrikas. In: *Deutsch Ost-Afrika*, Band III, Die Thierwelt Ost-Afrikas, Wirbeltiere 3-4, XVIII + 72 pp., 24 figs.

RUPPELL W.P.E.S., 1829. - Beschreibung und Abbildung mehrerer neuer Fische, im Nil entdeckt. Frankfurt-am- Main : 12 pp., 3 pls.

RUPPELL W.P.E.S., 1832. - Fortsetzung der Beschreibung und Abbildung mehrerer neuer Fischer, im Nil entdeckt. Frankfurt-am-Main: 14 pp., 3 tabs.

STEINDACHNER F., 1870. - Zur Fischfauna des Senegal. *Sber. Akad. Wiss. Wien*, 60: 945-995, 8 pls.

STEINDACHNER F., 1894. - Ichthyologische Beiträge. *Sber. Akad. Wiss. Wien*, 103(1): 443-464.

SVENSSON G.S.O., 1933. - Fresh-water fishes from the Gambia river (British West Africa). Results of the Swedish Expedition 1931. *K. svenska Vetensk. Akad. Handl.*, 12(3): 1-102, 28 figs, 8 pls.

VALENCIENNES A., 1839. - Histoire naturelle des poissons. vol. 13: xix + 505 pp., pl. 369-388. Paris, Strasbourg.

Reçu le 26.03.1990.

Accepté pour publication le 28.06.1990.